D. The Model Omits Security Costs

Q. DOES THE MODEL ACCOUNT FOR SECURITY ACCESS COSTS ACCURATELY?

A. No. BA-NY has legitimate reasons for protecting its network from unrestricted access by collocators. Although AT&T/MCI admit that BA-NY "is entitled to ensure its equipment areas are secure,"[28] the Model fails to include the costs BA-NY will incur on a forward-looking basis to secure its equipment and network.[29]

According to AT&T/MCI, the cost of such security is already included in the cost of the instantaneously-created imaginary central office.[30] More specifically, the Model assumes without any support whatsoever that the cost of electronic security access systems are included in the basic per square foot cost of a central office building, and therefore are included in the Model's per square foot rent charge. Given that the R.S. Means data is from an era before such systems were generally deployed, such an assumption is invalid.

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28 Ex. RB-1 at 53.

29 Interestingly, the Model includes the costs associated with preventing BA-NY and other personnel from accessing the *collocator's* equipment by including the costs for a collocation cage.

30 BA-NY includes security costs in its room construction charges, which are determined on a case-by-case basis.

Further, AT&T/MCI's theory of recovering security costs relies on the strategic placement of collocation space near cross-connection bays as well as near an exterior wall or corridor to permit unrestricted access. This configuration is not feasible in most cases.

But even if "ideal" collocation space (as described by the Model) were available in all central offices in New York, the Company may still need to install an access door and card swipe mechanisms or other security measures such as coded locks in order to ensure the security of its equipment to which the Model's developers admit it is entitled. Moreover, BA-NY may also be required to construct additional doors, hallways or drywall partitioning to provide secure access. These costs are not included in the Model. BA-NY is entitled to recover these costs from the cost causer – the collocator.

Q. WHY DOES BA-NY PROVIDE THE COLLOCATORS WITH SECURE ACCESS TO BA-NY'S CENTRAL OFFICES?

A. BA-NY provides collocators with access only to those portions of the central office necessary to reach the collocation cage. The collocator may not gain access to other parts of BA-NY's central office. BA-NY takes its obligation to protect the network very seriously. AT&T severely restricts access by BA-NY personnel in those locations where BA-NY has

equipment on AT&T's premises in an effort to maintain security. BA-NY's legitimate security needs are no less.

Q. WHY NOT JUST ESCORT THE COLLOCATOR TO THE COLLOCATION AREA EVERY TIME IT WANTS TO ACCESS ITS EQUIPMENT?

A. Such a requirement would be burdensome and inefficient. BA-NY is not in the security business. In addition, some of the central offices where collocators have requested collocation are not staffed by BA-NY employees 24 hours a day, 7 days a week. Providing secured access to the collocation space allows the collocator to provision and maintain the collocated equipment in accordance with the scheduling and demand requirements of the specific collocator, without burdening BA-NY employees to be baby sitters.

Q. HOW DOES BA-NY DETERMINE WHERE TO PUT THE COLLOCATION ROOM IN A CENTRAL OFFICE?

A. The collocator's equipment generally must be placed in a location so that BA-NY may protect its equipment from unauthorized access by the collocators' employees, as well as provide power and other services to the collocator. Thus, although it may be possible to place a collocator closer to BA-NY's transmission equipment, the construction costs associated with providing both secure access and protection of BA-NY space will often outweigh the costs of additional cabling that may be required to

provide physical collocation space farther away from BA-NY's cross-connect frames.

Q. WOULD INSTALLING A CARD READER AT THE ENTRANCE OF THE CENTRAL OFFICE PROVIDE SUFFICIENT SECURITY?

A. No. Merely installing a card reader system at the entrance of the central office is not sufficient to protect BA-NY's equipment from access by collocators. BA-NY may also be required to secure other rooms, entranceways and hallways *within* the central office. This could require adding circuitry as well as card readers throughout a central office building, depending on where a collocation cage is sited. Card access systems must include, at a minimum, the cost of a single access card reader, electric door hardware and associated wiring. Moreover, in many cases, the existing system will not support new readers without the addition of a supplemental control panel (because the existing system has reached its capacity).

E. THE MODEL'S POWER PLANT DESIGN IS FLAWED AND ITS POWER COSTS ARE UNDERSTATED

Q. ARE THE POWER COSTS CALCULATED ACCURATELY IN THE MODEL?

A. No. The Model's power plant design is flawed. In addition, the Model's power investments are understated because, among other things, it miscalculates unit costs.

Q. PLEASE DESCRIBE YOUR ANALYSIS OF THE MODEL'S POWER PLANT.

A. The maximum size of a power plant is determined by the amperage capacity of the microprocessor. Typically, if BA-NY determines that 1200 amps are required at the time of the switch and power plant installation, then BA-NY's engineers would place a 2600 amp microprocessor at the time of the power plant installation. This is done to allow for power plant growth. The remaining elements of the power plant such as the rectifiers and the batteries will carry an amperage rating in the neighborhood of 1200 amps.

Q. WHAT IS THE AMPERAGE RATING OF THE MICROPROCESSOR CONTAINED IN THE AT&T/MCI COST MODEL?

A. BA-NY has been unable to determine precisely the amperage rating of the Model's microprocessor. It can be assumed however that the power distribution center ("PDC") in the AT&T/MCI Model (BU # 11) includes the microprocessor, as well as the power distribution service cabinet ("PDSC") and the power plant distribution bay ("PDB"). If this is true, then the investments for the PDC represented in the AT&T/MCI Model are grossly understated. BA-NY has asked for this information in a data request, which was due May 7, 1998.

Q. WHAT INVESTMENT IS INCLUDED FOR THE PDC IN THE AT&T/MCI COST MODEL AND HOW DOES THAT INVESTMENT COMPARE WITH BA-NY'S DISCOUNTED VENDOR MATERIAL PRICES?

A. The material investment is listed as $7,000. In contrast, BA-NY's vendor discounted material investment included in the 2600 amp power plant (BA-NY's cost study) for the microprocessor is $17,500. If the investments for the above mentioned PDSC and PDB ($4,000 and $15,000 respectively) were included in BA-NY's estimate, then the total investment is $36,500 or about 5 times the costs included in the Model.

Q. WHAT DO YOU CONCLUDE FROM THE ANALYSIS OF THE POWER PLANT SIZE AND THE MICROPROCESSOR?

A. As stated above, either the investment in the PDSC and PDB are assumed to be included in the Model's PDC – in which case the investments mirror nothing close to what BA-NY believes the investment should be -- or the equipment is missing entirely from AT&T/MCI's cost analysis. The Model relied on an estimate from a vendor – Primal Communications – which is not even located in New York. BA-NY's power costs, by contrast, are based on actual New York vendor information.

Q. PLEASE DESCRIBE YOUR ANALYSIS OF THE MODEL'S BATTERY COSTS.

A. The model purports to use Absolyte batteries in their power plant (BU # 11). These batteries are typically used for outside plant and small customer premises applications, but are not generally approved for use in BA-NY central offices for support of switching and transport equipment.

Q. WHY ARE ABSOLYTE BATTERIES NOT APPROPRIATE FOR USE IN CENTRAL OFFICES?

A. BA-NY power engineers have concluded that this type of battery provides limited capacity compared to the wet cell lead acid batteries traditionally used by ILECs. Absolyte batteries also are much more prone to failure and leakage and present a higher risk to service. In addition, the batteries used by BA-NY have a greater life cycle and reliability. It has been BA-NY's experience that Absolyte or similar batteries typically last 7 years or less. In contrast, the batteries used by BA-NY last from 15 to 20 years or more.

Q. PLEASE DESCRIBE YOUR ANALYSIS OF THE MODEL'S STANDBY GENERATOR COSTS.

A. The Model includes an investment in a standby generator of $84,000 for the 2500 amp plant. That investment includes the fuel tank, Switchboard Equipment (BA-NY assumes automatic circuit breakers), and AC entrance cable. From the Model's backup documentation (BU # 11), it appears that the installed investment in the 400 kw (kilowatt) standby generator is

$165,000. The Model further calculates investments for the fuel tank, Switchboard Equipment (automatic circuit breakers), and AC entrance cable of $115,000, for a total investment of $280,000.

This value is divided by the kilowatt rating of the standby generator to determine a cost per watt and multiplied by the watts per amp to determine a cost per –48 volt DC amp. The formula is as follows:

(Investment/kilowatts) * watts per amp = invest. per –48 DC amp

or

($280,000/400,000) * 48 = $33.60 per –48 DC amp

(Digital switches run on -52.2 volts, not the –48 volts, so Mr. Bissell calculation should be multiplied by 52.2.)

The Model then multiplies the derived investment per –48 volt DC amp by the number of amps required in the plant to derive a total installed investment for the standby generator, the fuel tank, Switchboard Equipment, and AC entrance cable ($33.60 * 2500 amps = $84,000 total investment).

Q. WHAT IS WRONG WITH CALCULATING INVESTMENTS FOR THE STANDBY GENERATOR, FUEL TANK, SWITCHBOARD EQUIPMENT, AND AC ENTRANCE CABLE AS DESCRIBED ABOVE?

A. The fuel tank and the AC entrance cable are part of the buildings account, not the power equipment account, so they should not even be included in

the calculation. Including those allegedly lower investment items in the equation dilutes the calculated investment in the remaining items – the standby generator and the switchboard equipment. If the investment in the standby generator truly is $165,000, then its unit specific investment per amp should be calculated individually.

Additionally, inherent in this calculation is the assumption that the fuel tank, AC entrance cable, the standby generator and the switchboard equipment have a linear relationship to amperage capacity. That assumption makes no sense at all. As stated above, the fuel tank and AC entrance cable are buildings account-related, and do not belong in the standby generator equation at all. The switchboard equipment, on the other hand, is a integral part of the power plant. The investment for this item can range from $40,000 for a 1200 amp breaker, to $50,000 for a 1600 amp breaker, to $150,000 for a 3200 amp breaker. Accordingly, there plainly is not a linear relationship between amperage capacity and investments.

The only reasonable way to quantify power investments is through individual purchases or estimates of individual purchases. AT&T/MCI are understating material and installed investments for critical components of the power plant and diluting those investments by including investments in unrelated components (fuel tanks and AC entrance cable) to do so. The

calculation of power plant investments therefore is flawed and should be rejected in its entirety.

Q. DO YOU SEE ANY OTHER PROBLEMS REGARDING THE STANDBY POWER EQUIPMENT?

A. Yes. The –48 volt emergency lighting and conduit are missing from the power calculation. These costs are an integral part of an emergency power plant and should be included in a cost study. BA-NY calculates these costs to range from $20,000 to $115,000 depending on the density zone.[31]

Q. MR. BISSELL STATES THAT THE INVESTMENT FOR THE STANDBY GENERATOR IS $84,000 (INSTALLED), APPARENTLY INCLUSIVE OF SWITCHBOARD EQUIPMENT, FUEL TANK AND A/C ENTRANCE CABLE. HOW DOES MR. BISSELL'S INVESTMENT COMPARE WITH BA-NY'S INVESTMENTS FOR THESE ITEMS?

A. Mr. Bissell's investment is grossly understated. For an urban power plant (2600 amps), BA-NY's cost study includes a discounted material investment for a standby generator of $38,200 and $40,000 for the automatic breakers, for a total material investment of $78,000. Adding the above described conduit and emergency lighting costs of $30,000, would

[31] Panel Testimony of Bell Atlantic - New York on Costs and Rates for Physical and Virtual Collocation, filed March 27, 1998, Workpaper 1.0, Part A, Section 1, Page 4, Line 26 across.

bring the total material price (uninstalled) to $108,200, excluding the investments for the fuel tank and A/C entrance cable (which are included in the building account). Mr. Bissell's total installed cost of $84,000 – apparently inclusive of emergency power equipment, fuel tanks and A/C entrance cable – is simply not credible.

Q. HAS BA-NY ATTEMPTED TO OBTAIN A BREAKDOWN OF ALL POWER MATERIAL AND INSTALLATION COSTS INCLUDED IN THE MODEL?

A. Yes. BA-NY requested a breakdown of these costs in a data request, but was not provided this information.[32]

Q. IS IT POSSIBLE THAT THE EMERGENCY LIGHTS AND CONDUIT WOULD BE INCLUDED IN THE BUILDING COST DATA?

A. In light of what BA-NY has learned about the age of the R.S. Means data and the inability to verify what costs are included or excluded, it would be inappropriate to assume that such costs are included. Additionally, conduit and emergency lighting are generally installed with the power plant.

Q. DO YOU NOTE ANYTHING ELSE THAT YOU CONSIDER FLAWED IN THE AT&T/MCI POWER CALCULATIONS?

[32] AT&T Responses to NYT-ATT-449 and NYT-ATT-452.

A. Yes. The amperage rating for the BDFB is 1200 amps and the total installed investment for this unit is $20,000. The proper way to determine the unit investment for this equipment is to divide the $20,000 by the 1200 amperage rating, which would yield a unit investment of $16.66 per amp. The AT&T/MCI Model, by contrast, calculates the unit investments by dividing the total installed investment of $20,000 by the total stated amperage of the power plant or 2500. That calculation yields a unit investment of $8.00 per amp. The denominator in this calculation (2500 amps) is more than twice the total amperage rating of the BDFB (1200 amps) and understates investment by more than half. In fact, after Bell Atlantic pointed out in a Maryland collocation proceeding that this calculation was wrong, AT&T/MCI admitted the error and corrected its Model.

Q. DO THE SAME PROBLEMS EXIST IN THE 4000 AMP PLANT?

A. Yes.

Q. DO THE SAME PROBLEMS EXIST IN THE 2500 AMP AND 4000 AMP POWER PLANT CALCULATIONS AS THEY RELATE TO VIRTUAL COLLOCATION?

A. Yes. Except in that portion of the Model, the BDFB calculation problem described above is exaggerated because the capacity of the BDFB is

lower than that for physical collocation power in the Model (600 amps compared to 1200 amps).

Q. ARE THERE ANY OTHER CONCERNS WITH THE MODEL'S POWER PLANT CONFIGURATION?

A. Yes. Mr. Bissell and his subject matter experts believe that it is proper to serve 100 amps DC power from a BDFB. BA-NY's BDFBs, however, serve only up to 70 amps. BA-NY's engineering practice therefore is to serve single power feeds of greater than 70 amps by connecting the cable back to the power plant. Thus, because collocators typically request more than 70 amps – even up to 300 amps – the Model's use of a BDFB is flawed.

Q. WHAT OTHER POWER COSTS ARE OMITTED FROM THE MODEL?

A. There is no indication that all of the transportation, warehousing and rigging costs required to install a power plant are included in the Model. For example, the central office diagram in the Model's documentation shows that the power plant resides on the second floor. There is no statement in the documentation to show that the vendor's quote includes the cost for the required transportation as well as local hauling and hoisting to place this heavy equipment on the second floor.

Q. PLEASE SUMMARIZE THE REASONS THE COMMISSION SHOULD REJECT THE POWER PLANT COSTS AS DEVELOPED IN THE AT&T/MCI MODEL.

A. Contrary to the Model, each discrete component of a properly engineered power plant carries its own unique amperage rating, so unit investments must therefore be calculated on an individual basis. The Model's power plant is not properly engineered and the costs are not properly developed. Following the AT&T/MCI cost model methodology, which is to "lump" all the investments together and divide by the stated capacity of the total plant, will inevitably yield inaccurate results. BA-NY's cost study, on the other hand, provides accurate costs for the power plant required for collocation.

F. The Model's Cage Construction Costs Are Understated

Q. WHY SHOULD THE COMMISSION DISREGARD AT&T/MCI'S PROPOSED CAGE CONSTRUCTION CHARGES?

A. The Commission should reject these charges in light of the fact that AT&T/MCI may contract directly with a BA-NY approved vendor for the cage construction. In fact, BA-NY proposes to give this responsibility to the collocator. If AT&T/MCI truly believe that they have proposed reasonable cage construction costs, then they should take this burden off BA-NY's shoulders and construct their cages themselves.

Q. DO YOU BELIEVE THAT THE MODEL PROPOSES REASONABLE CAGE CONSTRUCTION CHARGES?

A. No. First, AT&T/MCI propose to recover cage costs through a recurring charge, rather than a non-recurring charge. This rate structure is unreasonable. Indeed, the Model uses a 47-year capital recovery period. To ensure that BA-NY recovers the costs it incurs in constructing a cage for the collocator, BA-NY should be paid up front by the collocator in the form of a non-recurring charge. If these cage costs were recovered through a recurring charge over 47 years – as proposed by AT&T/MCI – then BA-NY would bear the risk that the CLEC would abandon the cage and leave BA-NY with the stranded investment. There is no justification for requiring BA-NY to bear this risk.

Q. DO YOU AGREE WITH AT&T/MCI'S ASSERTION THAT REQUIRING UP FRONT CAGE CONSTRUCTION CHARGES WOULD BE A BARRIER TO ENTRY? [KLICK AT 11-12]

A. No. Cage construction costs are not a barrier to entry. Facilities-based entry into the local exchange market is not cheap and requires a significant investment. The fact that collocation already exists in numerous BA-NY central offices proves that cage construction costs are not a barrier to entry.

In addition, BA-NY has already filed with the Commission a non-recurring charge installment plan. Under this plan, CLECs with under $2 billion dollars in annual telecommunications-related revenue are eligible to pay all non-recurring charges over an 18 month period. This installment plan alleviates any burden on the smaller CLECs of paying non-recurring charges at one time.

Q. WHAT IS YOUR RESPONSE TO AT&T/MCI'S ARGUMENT THAT THE CAGE IS REUSABLE AND THEREFORE A RECURRING CHARGE IS APPROPRIATE?

A. Regardless of whether the cage is reusable, the costs for cage construction should be recovered through a non-recurring charge. This rate structure ensures that the cost causer – the requesting collocator – bears the responsibility of paying BA-NY for its out-of pocket costs. In the event that the collocator vacates its cage and the cage is in fact reused by another collocator, BA-NY has agreed to collect the cage costs from the second collocator and reimburse the first collocator.[33] This provision makes far more sense than requiring BA-NY to bear the risk that no other collocator will occupy the vacated cage, leaving BA-NY with stranded investment. In addition, a recurring rate structure would create a

[33] New York Telephone Company, P.S.C. No. 914, Section 5.1.12(i), Page 1.25.

disincentive for the collocator to forecast correctly because the collocator would not be held accountable for cage costs.

Q. THE MODEL ASSUMES THAT BA-NY WILL PROVISION 4 COLLOCATION CAGES AT ONE TIME. HOW DOES THIS ASSUMPTION AFFECT COLLOCATION COSTS?

A. By assuming that 4 collocation spaces will be simultaneously built, the Model inappropriately spreads some planning and cage construction costs among all collocators rather than the specific collocator causing the cost. For example, the Model installs one electrical panel for the four collocation cages regardless of the needs of each collocator. This dilutes the costs by spreading this cost across all cages. The Model also proposes to recover the planning costs for the first collocation space request from the occupiers of the 4 collocation spaces.

Q. DO YOU AGREE WITH THE ASSUMPTION MADE IN THE MODEL THAT BA-NY SHOULD PROVISION 4 COLLOCATION CAGES PER REQUEST? [KLICK AT 9; BISSELL AT 15]

A. No. The assumption that BA-NY will provision 4 collocation cages at one time in one collocation area is not realistic. Although there are certainly a handful of popular BA-NY central offices – primarily in Manhattan – that have multiple collocators, it is unlikely that 4 collocators will occupy each and every central office requested. The most recent information available

shows that 17 of the current 33 BA-NY central offices with collocation have two or fewer collocators. And 64% of the central offices have 3 collocators or less.

Now that many of BA-NY's largest central offices already accommodate multiple collocators, it is unlikely that the central offices requested in the future will be requested by 4 collocators. Thus, the assumption that BA-NY should construct four 100 square foot collocation cages each time it receives a collocation request is flawed. There is no evidence to support this level of demand.

Most important, even if 4 collocators eventually request the same central office, it is extremely unlikely that they will do so all at the same time. Thus, not all 4 cages will be fully occupied over the cost recovery period, leaving BA-NY with underrecovered investment. The Model's attempt to address this problem through the use of an occupancy factor is creative, but flawed. There is no basis for requiring BA-NY to bear the risk of stranded investment when the collocators have the information regarding where and when they want to collocate. In fact, BA-NY requested AT&T and MCI's forecasts of future collocation plans in New York and was told that none exist.

Q. PLEASE EXPLAIN THE MODEL'S OCCUPANCY FACTOR.

A. The Model applies a user-adjustable occupancy factor to certain shared costs to recover collocation costs for periods during the year when there might not be full occupancy of all the space. This recovery is accomplished by dividing certain shared costs, such as cage preparation, by the occupancy factor, which then increases the cost of the occupied space.

Q. WHAT IS THE BASIS OF THE MODEL'S 75% OCCUPANCY FACTOR?

A. There is no basis whatsoever for the Model's proposed 75% occupancy factor and it would be difficult to calculate such a factor to account sufficiently for all periods in which the cages would be unoccupied. In fact, the Model's developers have stated that the occupancy factor is based on their judgment, but there is no historical average or documentation to support this value. As discussed above, there is simply no basis to conclude that the 3 other cages will be occupied over the recovery period.

Q. DOES THE MODEL'S OCCUPANCY FACTOR ADEQUATELY ACCOUNT FOR VACANCIES ONCE A NEW COLLOCATION CAGE IS CONSTRUCTED?

A. BA-NY has no assurance that if it builds the four collocation cages to the first collocator's particular specifications, subsequent collocators will ever

occupy the space or will accept those precise specifications. Use of an occupancy factor would not only fail to recover these costs, but would shift costs away from the cost causer.

Q. ARE THERE ANY OTHER REASONS WHY BUILDING FOUR 100 SQUARE FOOT CAGES EVERY TIME THERE IS A COLLOCATION REQUEST IS IMPRACTICABLE?

A. Yes. It simply makes no sense to require BA-NY to build 4 cages every time it receives a collocation request. For example, if BA-NY builds four 100 square foot cages, and the second collocator requests a 200 square foot cage, BA-NY will be required to reconfigure the 100 square foot cages to accommodate such a request. These costs are not included in the Model. Thus, while it may on occasion make sense to build more than one cage at one time in a particular central office, requiring BA-NY to build four 100 square foot cages every time there is a collocation request – regardless of forecasted demand – is absurd. In fact, only 43 of the current 101 cages in New York are 100 square feet. Moreover, in 1996 and 1997, most of the cages requested were for 200 square feet or larger.

Q. WHAT METHODOLOGY SHOULD THE COMMISSION ADOPT INSTEAD OF THE MODEL'S 4 CAGES PER CENTRAL OFFICE ASSUMPTION?

A. The only reasonable way for BA-NY to be compensated for the up-front costs that it incurs to provide a carrier with physical collocation is to collect these costs in a non-recurring charge on a cage-by-cage basis.

Q. DOES THE MODEL UNDERSTATE THE COSTS OF CONSTRUCTING A 100 SQUARE FOOT CAGE?

A. Yes. As BA-NY demonstrated in its cost study submitted on March 27, 1998, the average costs of constructing a 100 square foot cage in an existing collocation room is $23,063. The Model, on the other hand, calculates an average cost for one 100 square foot cage of $2,727 to $3,204.

G. THE MODEL'S CABLE AND TERMINATION COSTS ARE ERRONEOUS

1. Cable Lengths

Q. DO YOU AGREE WITH AT&T/MCI'S ASSERTION THAT BA-NY'S CABLE LENGTHS SHOULD BE ARTIFICIALLY LIMITED TO NO MORE THAN 165 FEET? [BISSELL AT 17]

A. No. The Model uses a connectivity length of 165 feet for physical collocation (for all service levels except fiber) which bears no relation to actual practice and is designed solely to lower the collocator's costs. BA-NY's actual average cable length from the physical collocation area to the MDF is 258.4 feet for voice grade and DS0 i276.8 feet for DS1, and 265.8

feet for DS3.[34] Cable lengths will, of course, vary depending on the particular central office because, for example, the collocator's equipment must be located in a secure area which often requires it to be placed on a different floor from the transmission equipment.

Q. EXPLAIN HOW CONNECTIVITY LENGTHS ARE FACTORED INTO THE MODEL.

A. The Model assumes that some cables, such as the fiber from the cable vault to the collocation space, are provided by the collocators, but pulled and placed by BA-NY. The Model therefore calculates a labor cost, based on the time that it takes to pull and place in the cable racks a specific length of cable. By understating the cable length as the Model does, installation costs are understated. Likewise, by assuming shorter cable lengths, recurring charges for use of cable racking are understated. Finally, the Model's understated cable lengths artificially decreases the SAC and IAC charges.

Q. WHAT EFFECT DO REDUCED CABLE LENGTHS HAVE ON THE COSTS PRODUCED BY THE AT&T/MCI MODEL?

A. Connectivity lengths are one of the most significant cost drivers in the study; therefore, the understatement of these lengths results in significant

[34] The average cable lengths were calculated by analyzing actual data from two-thirds of BA-NY's central offices, representing over 80% of the existing collocation arrangements in New York.

understatement of the costs of providing collocation services. For example, installation costs increase 63% when BA-NY's actual cable lengths are used in place of the Model's lengths.

Q. MR. BISSELL CLAIMS THAT BA-NY'S CABLE LENGTHS SHOULD BE ARBITRARILY SHORTENED BECAUSE BA-NY'S "POLICY" OF PLACING ALL COLLOCATORS IN ONE ROOM INCREASES CABLE LENGTHS. [BISSELL AT 12] WHAT IS YOUR RESPONSE?

A. Mr. Bissell is wrong. Contrary to his assertions, BA-NY does not insist that all collocators be placed in one collocation room, although in many cases this practice is the most efficient and reduces costs to all collocators. It is less costly to condition one collocation room than to condition multiple rooms. Accordingly, due to these economies of scale, the costs to the collocators are lower. These lower costs far outweigh the costs associated with additional cabling.

Q. WHAT IS YOUR RESPONSE TO MR. BISSELL'S CONTENTION THAT ILECS HAVE THE INCENTIVE TO PLACE COLLOCATION SPACE FAR AWAY FROM THE ILEC CROSS CONNECTS? [EX. RB-1 AT 6]

A. Mr. Bissell's statement makes no sense. The BA-NY space and frame planning process encourages locating collocation space as close to main frames and power sources as possible. BA-NY has actually ruled out areas of central offices for collocation purposes due to excessive cable

lengths. Indeed, AT&T/MCI were unable to provide any examples of instances where BA-NY improperly rejected a space closer to its cross connects in favor of a more remote location.[35]

Q. DOES BA-NY HAVE LARGE AMOUNTS OF SPACE THAT IT IS REFUSING TO MAKE AVAILABLE FOR COLLOCATION? [BISSELL AT 12-13; EXH. RB-1 AT 8, 13.]

A. No. Most BA-NY central offices have been around for several decades and have seen the transition from electro-mechanical to Analog, ESS and Digital switching systems and a variety of improvements in transport technologies. However, because newer technologies require higher degrees of environmental support and often different space layouts, the space vacated by older vintage equipment often requires substantial upgrades to become usable for newer equipment. These upgrades can include new air conditioning systems, changeouts of the cable racking layouts, and floor tile replacements (usually involving asbestos abatement). Therefore, while space may be available for collocation, it can be costly to upgrade the existing HVAC systems or provide new HVAC equipment to support the collocation requirements. It may simply

[35] AT&T Response to NYT-ATT-399.

be more cost effective to locate the collocators a larger distance from the cross connect frames.

Q. COULD BA-NY REMOVE BLOCKED CABLE ROUTES TO MAKE ROOM FOR ADDITIONAL CABLES AS SUGGESTED BY MR. BISSELL? [EX. RB-1 AT 8]

A. Not necessarily. Because newer cable has been run on top of older cable, some cable routes become blocked by live cable that is over dead cable and thus cannot be removed without incurring excessive costs or risk jeopardizing service. Where dead cable exists separate from live cable, BA-NY does remove it. Thus, although BA-NY is on occasion required to run longer cable routes because of congested racks, it is because the racks are congested with live cable, not cable that is readily removable.

Q. IS BA-NY CENTRAL OFFICE SPACE BEING USED "TEMPORARILY" TO HOUSE ADMINISTRATIVE STAFF?

A. No. BA-NY has not used central office space to "temporarily" house administrative staff, as AT&T/MCI suggest. BA-NY has taken aggressive measures to consolidate centers and made the decision to place administrative personnel in central office space because it was the most efficient and permanent arrangement.

2. Utilization Rates

Q. ARE THE MODEL'S CABLE AND TERMINATION UTILIZATION RATES OVERSTATED?

A. Yes. The Model uses default utilization rates for all service levels of 85%. (The Model uses this same default rate throughout the country.) This utilization rate is grossly overstated and bears no relation to BA-NY actual utilization rates.

Q. WHY IS AN 85% UTILIZATION RATE INAPPROPRIATE?

A. An 85% utilization rate represents an objective fill factor. "Objective fill" refers to the fill criterion that triggers replacement or augmentation of existing facilities; delaying replacement or augmentation beyond that point would create a risk of service outages or situations whereby requests for new service cannot be fulfilled.[36] If BA-NY actually sought to maintain its network components such as cabling at the objective fill level, it would be

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[36] The definitions of different types of fills are explained in greater detail at pages 26-27 of the Staff Memorandum dated March 8, 1995 concerning the loop cost manuals (Case No, 89-C-198):

> Physical fill refers to the actual number of pairs in a cable (*e.g.*, 300 pair) and assumes that every pair is available for use. Objective fill refers to the usable capacity, which is usually the engineering design limit. In most cases cables are engineered to exhaust at an established percentage of their physical fill (*e.g.*, 85%) with the remaining pairs unavailable for subscriber use (i.e. found defective, or needed for testing, signaling or maintenance purposes). Average fill is related to the actual average unused capacity. It is calculated by averaging the spare capacity on the date the plant was initially placed in service and the spare capacity at objective fill level. This average is allocated to the units in use, or in the case of cable, working pair.

See also Incremental Loop Cost Manual, Section 4, at 14-15.

involved in a virtually continuous process of replacement and augmentation, resulting in higher costs all around. The appropriate utilization rate should represent an intermediate level between the level that would be experienced immediately after augmentation, and the much higher level that would be experienced immediately before the following augmentation. This corresponds with the concept of "average fill," and is consistent with Staff's recommendation in its memorandum to the Commission in the loop cost study proceeding, cited above:

> Absent general consensus by the subcommittee [on incremental costs] . . . Staff has considered the issue and recommends that average fill be used in studies where average statewide costs are being developed. Use of the average fill factor produces forward-looking unit costs designed to generate revenues that will make the company whole for its investments. This procedure is consistent with producing accurate cost estimates for average system conditions. . . .[37]

The average fill concept is also consistent with the FCC's statement in the *Local Competition Order* that calculations of per-unit costs must be based on "reasonable projection[s] of the actual total usage of the element."[38] As explained above, an objective fill does not purport to be a projection of *actual* usage of an element.

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37 Staff Memorandum, Pages 27-28.

38 *Local Competition Order*, ¶ 682.

Q. WHO DETERMINES WHEN CABLES SHOULD BE ADDED?

A. The collocator. In BA-NY's experience, collocators generally are requesting additional cables and terminations at utilization levels less than 70% – not the 85% rate used in the Model. Basing SAC and IAC charges on an 85% utilization rate, but permitting collocators to request additional cabling at much lower levels, would be grossly unfair. Moreover, as discussed above, even if the collocators requested additional cables at an 85% utilization level, the average utilization rate would be much lower.

Q. DOES BA-NY HAVE DATA ON ACTUAL UTILIZATION RATES?

A. Yes. BA-NY has collected the actual average utilization rates by service level and by date the cabling was put in service. This data demonstrates that a 85% utilization rate is too high.[39]

Q. HOW DID BA-NY CALCULATE THE UTILIZATION RATES INCLUDED IN ITS COLLOCATION COST STUDIES?

A. The utilization rates used in BA-NY's cost studies are discussed in Section IV, below.

H. THE MODEL'S BUILDING LAYOUT IS FLAWED

Q. ARE THERE ANY FLAWS IN THE DESIGN OF THE IMAGINARY CENTRAL OFFICE CREATED BY THE MODEL?

[39] This data was produced to AT&T in response to data request ATT-NYT-1245.

A. Yes. The Model has several significant design flaws such as the location of POT Bays and support columns which understate collocation space and further undermine the credibility of the Model.

Q. DO YOU AGREE WITH THE MODEL'S PLACEMENT THE POT BAYS IN FRONT OF THE CAGE DOORS?

A. No. BA-NY generally does not locate the POT Bays in front of the cage doors for safety reasons, in order that the collocator's personnel may enter and exit the cage without damaging the equipment. The collocation common space included in the Model is therefore too small.

Q. DOES THE MODEL'S COLLOCATION AREA LAYOUT LIMIT GROWTH?

A. Yes. Under the Model's configuration, only 7 POT Bays (per 4 cages) would fit in the common area if the bays are placed in front of the cage doors, and only 5 POT Bays if they are not. This restriction could limit collocator growth, particularly because an arrangement serving both voice grade loops and Private Line service would require 2 POT Bays.

Q. DOES THE MODEL'S LAYOUT ADEQUATELY ACCOUNT FOR THE STRUCTURAL REQUIREMENTS OF A CENTRAL OFFICE?

A. No. For example, the Model fails to include any space within the collocation space for the structural columns. BA-NY central offices typically have 1 column for a 20 square foot area. Because the collocators will be required to work around these columns, the amount of

collocation space required will increase. Therefore, the Model does not account for siting cages and common area within those central offices constructed with column bays narrower than the Model's.

The Model does not follow best-practices on forward-looking, efficient engineering because it neither accounts for future construction, nor for the future use to which the space is supposedly designed.

I. THE MODEL UNDERSTATES HVAC COSTS

Q. ARE THE MODEL'S HVAC COSTS PER CAGE ACCURATE?

A. No. The Model significantly understates HVAC costs. The Model states that HVAC would cost $1,785 per ton. BA-NY estimates, on the basis of several actual installation jobs, that a new system would cost between $5,000 and $8,000 per ton. (The higher end of this range pertains to new HVAC installation in a digital switch environment.) BA-NY's estimate therefore is over twice the cost as stated in the Model. The BA-NY cost includes all HVAC components for a complete system including duct work, diffusers, controls and balancing – all of which is assumed to be included in the Model. (Modification of an existing HVAC system, where excess capacity exists, would be less costly than a new installation.)

In addition, HVAC is generally purchased in increments of 10 tons or 30 tons, not 1 ton increments. If BA-NY is required to build 11 tons to satisfy the CLECs' and BA-NY's service requirements, BA-NY must purchase the

next level of capacity. Thus, BA-NY's real world investments are going to be greater than purchasing the exact amount of HVAC needed for the fantasy central office assumed in the Model.

J. The Model Does Not Include All Labor Hours Required to Design and Plan Collocation Projects

Q. DOES THE MODEL UNDERSTATE THE TIME REQUIRED FOR DESIGNING AND PLANNING COLLOCATION ARRANGEMENTS.

A. Yes. For example, AT&T/MCI significantly underestimate the time spent by BA-NY to design, plan and administer a virtual collocation project. The Model assumes that 66 hours are sufficient to design and plan a virtual collocation arrangement. This number is significantly understated. All of the Model's engineering and implemented hours are based on the judgment of AT&T employee Donna Carney, even though AT&T has had little experience with the activities involved in implementing collocation in BA-NY's offices because it has requested only a few cages throughout the State.

Q. HOW MANY HOURS ARE REQUIRED TO DESIGN AND PLAN A VIRTUAL INSTALLATION PROJECT?

A. Based on actual experience designing and planning virtual collocation projects, 111 hours of engineering, real estate, and TIS management time are required to implement an initial request for virtual collocation.

Q. HAS THE MODEL UNDERESTIMATED THE TIME REQUIRED TO DESIGN AND PLAN A PHYSICAL COLLOCATION PROJECT?

A. Yes. The Model includes only 52 hours to design and implement a physical collocation arrangement. By contrast, based on BA-NY's experience implementing actual collocation projects, 79.5 hours are actually required (for initial projects).

Q. ARE THERE ANY OTHER PROBLEMS WITH THE MODEL'S ENGINEERING AND IMPLEMENTATION CHARGES?

A. Yes. Because the Model builds 4 cages at one time, it spreads the costs of designing and planning the physical collocation space among 4 collocators. In most instances, however, BA-NY will build one cage at a time, and will thus incur separate design and planning costs. BA-NY recognizes that the first collocation job in a particular central office will require more time than subsequent jobs, which is why BA-NY has calculated separate design and planning charges. [40]

K. THE MODEL USES INCORRECT LABOR RATES

Q. DOES THE MODEL USES INCORRECT LABOR RATES?

A. Yes. Several of the Model's labor rates are inconsistent with this Commission's ruling in Opinion No. 97-2.

[40] Workpaper 1.0, Part A, Section 1, Page 2.

For example, the Model uses incorrect job functions as well as labor rates for its engineering and implementation fees (particularly for the central office engineer). In contrast, BA-NY's labor rates are consistent with this Commission's rulings in Opinion No. 97-2 and are properly assigned to the individuals performing the tasks.

Q. DO YOU AGREE WITH AT&T/MCI'S CLAIM THAT THE APPROPRIATE ESCORT LABOR RATE IS THAT FOR A FRAME TECHNICIAN? [EXH. JCK-1 AT 6]

A. No. The Frame Technician is not assigned responsibility for the transmission equipment within central offices buildings. Rather, BA-NY Central Office Technicians are responsible for knowing the specifications of all the transmission equipment and can escort the collocator to the appropriate equipment and answer questions. AT&T/MCI's attempt to lower collocation costs without regard to the actual job responsibilities of central office personnel should be rejected.

IV. CORRECTIONS TO BA-NY'S COLLOCATION COST STUDIES

Q. DOES BA-NY HAVE ANY CORRECTIONS TO ITS COSTS STUDIES?

A. Yes. BA-NY would like to correct the utilization rates used to calculate the Service Access Connection ("SAC") and Interconnection Access Connection ("IAC") charges.

Q. PLEASE EXPLAIN BA-NY'S CORRECTIONS.

A. BA-NY has slightly revised its SAC charges in the Physical Collocation Cost Study to reflect the latest available utilization rate data associated with cable and frame terminations. BA-NY used as an average utilization rate the actual utilizations rates for collocation arrangements existing for more than 24 months for each service level. This average represents a forward-looking rate because it reflects the utilization cycle. That is, it reflects the fact that utilizations increase over time and then drop again as cables and terminations are added. Relying on arrangements that are at least two years old also accounts for the fact that collocators need reasonable time to grow into their collocation arrangements. BA-NY's current actual utilization rates are much lower.

BA-NY has amended its utilization rates as follows:

Service	Revised Study	
	Utilization Rate	Rec. Cost
2-wire VG	26%	$ .39
2-wire DSO	26%	.39
4-wire DSO	26%	.78
DS1	52%	1.91
DS3	56%	44.35[41]

Q. DOES BA-NY HAVE ANY CHANGES TO MAKE TO ITS IAC CHARGES?

A. Yes. BA-NY has used the utilization rates for DS1 and DS3 SACs as an estimate of the utilization rates for the DS1 and DS3 IACs. Therefore, these IAC charges have been amended to reflect the above changes to the SACs.[42]

Q. DOES BA-NY HAVE CORRECTIONS TO ITS CABLE SUPPORT CHARGE?

A. Yes. In the original cost study filed on March 27, 1998, BA-NY inadvertently included the investment associated with the 2 cable holes and associated patching (lines 2 and 3 of the study) in the installed investment for cable rack (line 1). This error increased the installed

[41] Workpaper 2.0, Part A, Section 3, Page 2, Line 4; Workpaper 2.0, Part A, Section 3, Page 3, Line 4.

[42] Workpaper 2.0, Part A, Section 3, Pages 2-3.

investment by $5,200. This error has been corrected in the revised cost study. This correction reduces the total monthly cable rack cost by $0.04 per foot. The new cost is $0.17.[43]

Q. PLEASE EXPLAIN THE CHANGES TO THE VIRTUAL COLLOCATION ENGINEERING AND IMPLEMENTATION FEES.

A. BA-NY's virtual collocation engineering and implementation fees have been revised to reflect a change in work organization responsibilities and a different labor rate. In the original study, BA-NY erroneously attributed the Switch FOMS and LFACs database functions to "Network and Central Office Eng." In the revised study, this job function and associated labor rate is properly assigned to an outside plant engineer. The hours were also reduced by one hour. The effect of this change is to reduce the BA-NY engineering and implementation fee (initial, initial – CLEC contracts, and Augment – Partial Cable).[44]

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[43] Workpaper 1.0, Part A, Section 1, Page 5, Line 17.

[44] Workpaper 3.0, Part A, Section 3, Page 1, Lines 17 and 18; Workpaper 3.0, Part A, Section 3, Page 2, (Continued . . .)

(Continued . . .)

lines 16 and 17; and Workpaper 3.0, Part A, Section 3, Page 3, Lines 16 and 17.

Q. DOES THIS CONCLUDE THE PANEL'S TESTIMONY?

A. Yes.